

papillose viscous covering that enwraps the putamen is evidently analogous to the short tomentum imbedded in a pulpy mesocarp, as seen in *Jateorhiza*, *Odontocarya*, and *Hæmatocarpus*, and the fleshy envelope in *Anomospermum*. The description given of the form of its embryo is precisely that found only in the *Heterocliniæ*. From the evidence collected from all sources, which appears to me undeniable, the following generic character has been formed.

BURASIA, Thouars.—*Flores* dioici. *Masc.* *Sepala* 6, ovalia, concava, 2-serialia, 3 exteriora minora. *Petala* 6, oblongo-ovata, breviter unguiculata, carnosæ, 2-serialia, exteriora paulo majora, apice crosso-denticulata. *Stamina* 6, petalis opposita: *filamenta* carnosæ, subbrevia, gradatim incrassata, apice geniculato-clavata: *antheræ* oblongæ, introrsæ, 2-lobæ, lobis adnatis, imo paulo divaricatis et subimmersis, horizontalibus, rima laterali utrinque dehiscentibus. *Ovaria* rudimentaria nulla.—*Fœm.* (char. ex cl. Decne.) *sepala* et *petala* ut in masc. *Stamina* abortiva 6. *Ovaria* 3, gibbosa, 1-locularia, *ovulo* unico angulo ventrali appenso. *Stigna* sessile, truncatum. *Drupæ* 3, carnosæ, supra gynæcium auctum insitæ, ovatæ: *putamen* papillis tectum, mesocarpio viscoso indutum, ovatum, plano-convexum, 1-loculare, *condylo* concavo in loculo protenso: *embryo* intra *albumen* copiosum fere rectus, *cotyledonibus* planis, foliaceis, in locellis distinctis divaricatis, *radicula* supera, stigma spectante.

Frutices *Madagascarienses*, *glabri*, cortice rimoso; folia longe petiolata, palmatim 3-foliolata, foliolis ovatis, lanceolatisve, integerrimis, coriaceis; racemi pauci, axillares, fasciculati, floribus parvis, breviter pedicellatis.

1. *Burasaia Madagascariensis*, P. Th.;—Madagascar.
2. — *gracilis*, Dcne.;—Madagascar.
3. — *congesta*, Dcne.;—Madagascar.

Descriptions of these species are given in the 'Contributions to Botany,' vol. iii.

[To be continued.]

XLVII.—*Descriptions of new Species of Helix and Pupa from the Colony of the Cape of Good Hope.* By W. H. BENSON, Esq.

THE following species were chiefly received from Mr. Edgar Layard, who has been assisted in collecting shells by several correspondents in distant parts of the colony.

1. *Helix Arnotti*, B., n. sp.

H. testa obtecte perforata, subconoideo-depressa, irregulariter oblique

striatula, sublævigata, superne non nitente, lineis confertissimis vix impressis, sub lente decussata, infra polita, translucente, viridescenti-cornea; spira subconoidea, sutura impressa, anguste marginata, apice obtuso; anfractibus 4, gradatim accrescentibus, convexiusculis, ultimo versus peripheriam obtusam depressiusculo, subtus convexo; apertura obliqua, suborbiculato-lunata; peristomate tenui, recto, acuto; margine columellari oblique descendente, superne breviter calloso-reflexo, perforationem obtegente.

Diam. major $15\frac{1}{2}$, minor 13, axis 9 mill.

Habitat prope Colesberg. Detexit D. Arnott.

2. *Helix Phytostylus*, B., n. sp.

H. testa imperforata, turbinato-subglobosa, tenui, irregulariter oblique striatula, lineis minutissimis confertissimis spiralibus decussata, albida, opaca, strigis obliquis, angustis, luteo-fuscis, translucen-tibus, politis ornata, periomphalo, peristomate aperturaque intus colore eodem tinctis; spira convexa, conoidea, sutura impressa, apice obtuso; anfractibus 5, convexiusculis, ultimo rotundato, subtus convexo, periomphalo anguste excavato; apertura obliqua, rotundato-lunari; peristomate tenui, acuto; margine columellari bitorto, superne intrante, circulariter subexcavato, medio angulato-dentato, ætate calloso, aurantiaco.

Diam. major 16, minor 14, axis 12 mill.

Habitat ad Colesberg, et prope Riversdale.

A single specimen from Colesberg was sent for examination by Mr. E. Layard. Subsequently, I received from Riversdale, in the east part of Swellendam, specimens in various stages of growth, collected by a relative, Mrs. J. F. Hudson. The younger shells are more translucent, and the twisted columella has a thinner and less angularly projecting laminar tooth, the base of which, in adult specimens, has a resemblance to the truncation observable in *Achatina*.

Some specimens are marked with irregular, grey or translucent corneous spots. The hydrophanous colouring reminds the observer of the banded white and corneous brown species, *H. Cotyledonis*, B., which I discovered near Simonstown, and which is evidently a near ally of *H. Phytostylus*, from the tendency to a callous twist apparent at the upper part of the similarly entering columella.

3. *Helix Capsula*, B., n. sp.

H. testa imperforata, subconoideo-depressa, tenui, oblique striatula, sub lente minutissime obsolete decussata, translucente, polita, viridescenti-cornea; spira convexiuscula, sutura impressa, submarginata, apice vix elevato, obtuso; anfractibus 4, rapide accrescentibus, convexiusculis, ultimo antice majore, subtus convexo, medio excavato, periphæria rotundata; apertura obliqua, orbiculato-

lunata, intus margaritacea, peristomate acuto; margine columellari arcuato, superne vix incrassato.

Diam. major 13, minor 10, axis 6 mill.

Habitat prope Simon's Bay.

Occurs in a ravine behind the Admiralty House, Simonstown. Mr. Layard reports the animal to be beautifully marked with black, white, and grey in spots and bands.

4. *Helix Hudsonia*, B., n. sp.

H. testa minutissime obtecte perforata, globoso-depressa, tenuissima, lævigata, striatula, lineis minutissimis confertissimis spiralibus superne decussata, prope umbilicum polita, cornea, translucente, prope suturam linea angusta rufescente ornata; spira depresso-conoidea, sutura submarginata, apice obtuso; anfractibus $3\frac{1}{2}$, rapide accrescentibus, convexiusculis, ultimo lato, ad peripheriam rotundato, subtus convexo; apertura obliqua, globoso-lunata, marginibus subconniventibus; peristomate tenui, acuto; margine columellari superne breviter reflexo, perforationem obtegente.

Diam. major $12\frac{1}{2}$, minor $10\frac{1}{2}$, axis 7 mill.

Habitat ad Riversdale.

A single full-grown specimen, with the young, was received from Mrs. J. F. Hudson, with *H. Phytostylus*. The shell has a Vitrinoid appearance; but the sculpture, perforation, and suture, as well as the character of a portion of the animal remaining in the shell, prove it to be a *Helix*.

5. *Helix Prionacis*, B., n. sp.

H. testa umbilicata, conoideo-depressa, superne et infra fortiter oblique plicata, plicis remotioribus, albidis, albido-cornea, superne hic illic maculis fuscis ornata; spira conoidea, sutura impressa, apice obtusiusculo; anfractibus 5, convexiusculis, angustis, ultimo compresso carinato, subtus convexo; apertura late lunulata, securiformi; peristomate tenui, acuto; margine columellari expanso, superne dilatato.

Diam. major 6, minor 5, axis 3 mill.

Habitat prope Bredasdorp.

A single specimen was sent by Mr. E. Layard for examination. It has some relation to the following species, *H. Browningii*.

6. *Helix Browningii*, B., n. sp.

H. testa anguste umbilicata, conoideo-depressa, tenui, superne et subtus prope carinam solum plicis albidis confertim oblique plicata, versus umbilicum lævigata, albido-cornea, strigis obliquis rufis superne subtusque oblique ornata; spira conoidea, sutura impressa, apice obtusiusculo; anfractibus 5, convexiusculis, superioribus convexis, ultimo angulato, subcarinato, subtus subcon-

vexo; apertura late securiformi-lunulata; peristomate tenui, acuto; margine columellari expansiusculo.

Diam. major 5, minor 4, axis 3 mill.

Habitat prope Cape Point.

This shell was discovered by Mr. George Wing Browning, magistrate at Simonstown, a zealous collector in natural history. I examined two specimens in the collection of Mr. J. Sydney Hawkins, by whom they were brought from the Cape. The species is smaller than *H. Prionacis*, with the same number of whorls; the plication is closer, less deep, and more regular, and extends only just below the angulate periphery, instead of to the umbilicus, which is wider in *H. Prionacis*. In the latter species the periphery is more compressed, the rufous-brown markings are more disposed to be spotted than strigate, and do not extend to the lower side as in *H. Browningii*.

7. *Helix Omphalion*, B., n. sp.

H. testa umbilicata, subgloboso-depressa, superne confertim oblique plicata, subtus striata, lucida, polita, viridescenti-cornea; spira subconvexa, sutura subprofunda, apice obtuso; anfractibus $3\frac{1}{2}$, convexis, ultimo rotundato; apertura obliqua, rotundato-lunata; peristomate tenui, acuto; margine columellari verticaliter descendente, late reflexo; umbilico angusto, profundo.

Diam. major $4\frac{1}{2}$, minor 4, axis $2\frac{1}{2}$ mill.

Habitat prope Simonstown. Teste J. S. Hawkins.

A more minute, darkly coloured species, and with a narrower umbilicus, than *H. dumeticola*, B., which I took in the same neighbourhood, and more nearly approaching to, but quite distinct from, the large Natal form *H. vernicosa*, Krauss.

An immature specimen of Pfeiffer's fine typical *Helix Schärflæ*, from Bredasbosch, figured in pl. 2. figs. 2 & 3 'Malak. Blätter' for 1861, was received from Mr. E. Layard. It occurred at Oudebosch, near Gnadendal, in the same quarter whence Dr. Pfeiffer's specimens were procured. Mr. Layard also sent a smaller whitish variety from Swellendam, and another variety (white, with chestnut bands) from Bredasdorp, to the north-east of Cape Lagulhas. Mr. Layard reports that the eyes of those varieties are situated at the upper and inner side of a lengthened knob turning down from the summits of the upper tentacula. The foot, when the animal is withdrawn into the shell, looks like a piece of raw meat; and the animal greedily devours other living Mollusca confined with it, but in the bush is attracted in numbers by pieces of water-melons placed as a bait. He also sent a single imperfect specimen of *H. Hartvigiana*, Pfr., received from Oudebosch, and a large variety of *H. bisculpta*, B., 11 mill. in diameter, which occurs at Bredasdorp.

8. *Pupa Fryana*, B., n. sp.

P. testa sinistrorsa, profundissime umbilicata, elongate ovato-conica, oblique plicato-striata, striis confertissimis spiralibus decussata, lilacino-albida, versus apicem rufescente, anfractu ultimo fascia fuscescente infra peripheriam ornato; spira subcylindraneo-conica, sutura impressa, apice obtusiusculo; anfractibus 12, angustis, convexis, ultimo antice ascendente, pone aperturam compresso, longitudinaliter lineis 2 impressis signato, superne pone aperturam foveato, crista obtusa utrinque munito, basi circa umbilicum compresso carinata; apertura verticali, soluta, triangulari-obovata; peristomate tenui, undique expanso, reflexiusculo, margine palatali superne profunde sinuato, plicis 2 longe intransibus inferiore profunda, basali 1 columellaribusque 2 profundis, parietalibus 2 longe intransibus inferiore profunda, denteque versus angulum columellarem munito.

Long. 8, diam. 4, supra aperturam 3 mill.

Habitat ad Bredasdorp. Detexit J. Fry.

This sinistrorse species is very peculiar, with reference to its deep umbilicus running up to the summit, as in the unique Chinese *P. regalis*, B., its carinate base, and handsome sculpture. In some respects it exhibits a relation to the imperforate *P. Layardi*, especially with reference to the imperfect tube at the top of the aperture, formed by the connivent palatal and parietal plaits. It was discovered at Bredasdorp, at the southern shore of Swellendam, by Mr. John Fry. Mr. Layard reports that the animal is jet-black, very short and thin, the shell being carried on one side, or tilted up if in a line with the animal.

9. *Pupa Pamphorodon*, B., n. sp.

P. testa sinistrorsa, rimato-umbilicata, oblonge conico-ovata, oblique striata, sub lente lineis obsoletis spiralibus (infra magis conspicuis) impressis decussata, castanea; spira cylindrico-conica, apice obtuso, sutura impressa, submarginata; anfractibus 10, convexiusculis, ultimo subtus margine umbilicali juxta aperturam compresso; apertura verticali; peristomate tenui, expanso, aurantiaco; marginibus conniventibus, palatali denticulo 1 superiore plicisque 3 profundis intransibus tortis, parietalibus 2 inferiore remotiuscula, columellarique 1 profunde intrante intus subduplicata, omnibus albis munitis.

Long. 9, diam. 4 mill.

Habitat prope Simonstown.

Mr. E. Layard reports this pretty species as found in the ravine behind the Admiralty House.

10. *Pupa Dadion*, B., n. sp.

P. testa rimato-umbilicata, ovato-conica, subcylindranea, oblique striatula, micante, translucida, olivaceo-cornea; spira conoideo-cylindranea, sutura impressa, apice obtuso; anfractibus 6, con-

vexis, ultimo circa umbilicum compresso; apertura vix obliqua, angulato-ovata; peristomate reflexiusculo, albido; margine columellari expanso, intus profundo, parietali plica albida intrante superne munito.

Long. $3\frac{1}{2}$, diam. 2 mill.

Habitat ad latus orientale montis "Table Mountain" dicti, necnon prope Simonstown.

This pretty little Bulimoid species was found by Mr. E. Layard under moss on large stones at Paradise, a conspicuous primitive wood high up the face of Table Mountain—a spot which I considered likely to afford shelter to new species, but which I was unable to reach. I requested friends to search for shells there in 1846; but they were not successful. It also occurs in the ravine behind the Admiralty House, near Simons Bay, with *Helix Capsula*.

In the 'Annals' for December 1856, I described a Cape-Point *Pupa* as *P. Layardi*, from an injured specimen received from Mr. E. Layard. On his return from the Cape, in 1862, Mr. J. Sydney Hawkins favoured me with another imperfect specimen from the same locality, but with the spire intact. Fresh specimens of a smaller variety from Bredasdorp, sent to me by Mr. Layard, with a coloured epidermis, and in a perfect state, I was at first disposed to regard as a distinct species, with reference to the smaller number of whorls and to a remote denticle intervening between the second parietal plait and the columellar one; but in the second Cape-Point specimen this denticle is present, although obsolete in the original example. The colouring of the smaller variety, not observable in the weathered Cape-Point specimens, will doubtless be found in the perfect shell. The following correction will complete the original description:—

Pupa Layardi.—Apice obtusiusculo; anfractibus 9, superioribus convexiusculis, prope apicem convexis; margine parietali denticulo remoto inter plicam parietalem inferiorem et columellarem munito. Long. 8 mill.

Var. *minor*.—Castaneo-cornea, translucente; apertura aurantiaco-albida; anfractibus 8.

Long. $5\frac{1}{2}$ —7, lat. 2—3 mill.

Habitat ad Bredasdorp.

Cheltenham, April 16, 1864.

Note on some Shells of Southern India.

In the 'Annals' for February 1861, I described, as *Helix Basileus*, a gigantic shell found by Lieut. G. W. Cox in the hills near Trichoor, and, as I subsequently learned, taken at Nellyampaty, in a thick wood situated in an undulating country 3300 feet above the level of the sea, and fifty miles due east of

Trichoor. A larger specimen, from the more southern part of the Travancore range, was reported in the 'Annals' for December 1862. The original site proves to be a portion of the Anamullay Hills, which Mr. W. T. Blanford describes, in p. 374 of the 'Journal of the Asiatic Society' for 1861, as the highest range in Southern India, lying south-west of Coimbatore and of the Nilgiris, where Mr. King made a collection which he afterwards lost. Mr. Blanford informed me that one of the shells taken was evidently *H. Basileus*. In a short paper by Dr. Pfeiffer, published in the 'Proceedings of the Zoological Society' for 1862, p. 117, a large *Helix*, 68 mill. in diameter (4 mill. less than my original specimen), is described under the name of *H. Titanica*, as taken in the Anamullay forest. It is evidently the same species as *H. Basileus*. Dr. Pfeiffer must have overlooked the description which I forwarded to him in May 1861.

Another *Helix*, 30 mill. in greatest diameter, 25 mill. in the lesser, and axis 17 mill., taken, with smaller varieties, by Lieut. Cox in the same quarter, agrees with *H. lata*, Pfr. (not *H. lata* of Gould), the habitat of which was unknown. From the south part of the Travancore range I have received an imperfect specimen of a *Helix* which is apparently *H. Isabellina*, Pfr., previously known from Ceylon. This is an interesting circumstance in connexion with Dr. Pfeiffer's description, in p. 116 of the 'Proc. Zool. Soc.' for 1862, of a *Cataulus* (*C. recurvatus*) from the Anamullay forest.

In October 1860, I described a small *Cyrena* from Quilon as *C. Quilonica*; and in December 1862, I noted it as a *Batissa*, from a more mature specimen. I have since obtained the shell fully grown from Cochin, and find that it was described in the 'Proc. Zool. Soc.' for 1858, by Mr. Sylvanus Hanley, as *Cyrena* (*Batissa*) *Cochinensis*, which name will be retained on the ground of priority to that of *Quilonica*.—W. H. B.

XLVIII.—*Note on the Habits of some Mexican Reptiles.*

By F. SUMICHRAST*.

I. Family Varanidæ.

Genus HELODERMA, Wagler.

Heloderma horridum, Wagler, Wiegman.

'Escorpion' of the Creoles †. 'Tala-chini' of the Zapotec Indians.

THIS singular Saurian, the sole American representative of the

* Translated by W. S. Dallas, F.L.S., from the 'Bibliothèque Universelle,' 1864, Arch. des Sci. Phys. et Nat. p. 45.

† The name of *Escorpion* is generally applied in Mexico to all the Saurians whose bite is considered venomous.